



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/699,920	10/30/2000	Karl James Molnar	8194-392	8240
20792	7590	03/29/2004	EXAMINER	
MYERS BIGEL SIBLEY & SAJOVEC PO BOX 37428 RALEIGH, NC 27627			NGUYEN, DUNG X	
			ART UNIT	PAPER NUMBER
			2631	11
DATE MAILED: 03/29/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/699,920	MOLNAR ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Dung X Nguyen	2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 08 January 2004.

2a) This action is **FINAL**.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1 - 44 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1 - 4, 15 - 17, 28, 30, 31, 35, 36, 43 and 44 is/are rejected.

7) Claim(s) 5 - 14, 18 - 27, 29, 32 - 34, and 37 - 42 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.

4) Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_.

***Response to Arguments***

1. Applicant's arguments filed on January 08, 2004 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made based on the new found reference(s).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

3. **Claims 1 – 4, 15 – 17, 28, 30, 31, 35, 36, 43, and 44 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Wakamatsu (US patent # 5,987,074), and further in view of Bustamante et al. (US patent # 5,734,639).

Regarding claim 1, Wakamatsu discloses (figure 1, column 3, lines 17 - 33):

- Demodulator (43) that is responsive to downconverter (2, 21) received signals, and that is configured to separately generate and estimated first frequency/first frequency error (5) for the downconverted first signal and an estimated second frequency/second frequency error for generating estimated frequency/ frequency errors for the first signal and the second signal frequency/second frequency error (5) for the downconverted second signal;

- Wherein the converter (2, 21) is responsive to the estimated first frequency/first frequency error to the downconvert the received signals through blocks 22, 23, 24, 11, 12, 41, 42, 43, 44, 5, 51, 52, 53, 30, 27, 28, 29;
- Wherein the demodulator (43) is responsive to a difference between estimated second frequency/second frequency error and the estimated first frequency/first frequency error to demodulate the downconverted signals.

Wakamatsu differs from the instant claimed invention that it does not show that a converter that is configured to downconvert the jointly received first and second signals.

However, Bustamante et al. discloses (figure 1) that the converter (14) that is configured to up/down convert the signals from handsets 11-1, 11-2... 11-N via antenna 13.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Watkamatsu and Bustamante et al. to provide a converter that is configured to downconvert the jointly received first and second signals for improving the communication system.

Regarding claim 2, Watkamatsu and Bustamante et al. differ from the instant claimed invention that they do not state wherein the demodulator assumes that there is no first frequency error.

However, one can easily to assume that there is no first frequency error.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement Watkamatsu and Bustamante et al. to provide wherein the demodulator assumes that there is no first frequency error for improving the communication system.

Regarding claim 3, Watkamatsu and Bustamante et al. differ from the instant claimed invention that they do not state wherein the first signal is a desired signal and wherein the second signal is an interfering signal.

However, one can easily assume that there is no first frequency error as claim 2, thus names the first signal is a desired signal, and the second signal is still error (column 3, lines 17 – 21 of Wakamatsu).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement Wakamatsu and Bustamante et al. to provide wherein the demodulator assumes that there is no first frequency error for improving the communication system.

Regarding claim 4, Wakamatsu further discloses (figure 1):

- A first feedback loop (blocks 51, 52, 53, 30, 27, 28, 29) that is coupled between the estimated first frequency/first frequency errors (5) and the converter (2, 21), such that the converter downconverts the received signals based on the estimated first frequency/first frequency error; and
- A second feedback loop (blocks 51, 52, 53, 30, 27, 28, 29, 21, 22, 23, 24, 11, 12, 41, 42) that is coupled between the estimated second frequency/frequency error (5) and the demodulator (43), such that the demodulator (43) separately generates the estimated first and second frequency errors based on the estimated second frequency/second frequency error.

Regarding claim 15, the limitations are analyzed in the same manner set forth as claim 1.

Regarding claim 16, the limitations are analyzed in the same manner set forth as claim 4.

Regarding claim 17, the limitations are analyzed in the same manner set forth as claim 3.

Regarding claim 28, Wakamatsu discloses (figure 1):

- Demodulator circuit (43) that is configured to generate an estimate first frequency/first frequency error (5) and estimated second frequency/second frequency error (5) for the second signal (column 3, line 17 – 21);
- A long term automatic frequency control (44) that is responsive to the estimated first frequency/first frequency error (5), wherein the demodulator (43) is responsive to the long term automatic control (44) via blocks 52, 53, 30, 27, 28, 29, 21, 22, 24, 12, 42.

From that, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement Wakamatsu to provide a separate second long term automatic frequency control that is responsive to the estimated second frequency/ second frequency error, wherein the demodulator is responsive to the second long term automatic control for improving the communication system.

Regarding claim 30, Wakamatsu further discloses (figure 1):

- Wherein the demodulator circuit (43) that is responsive to the downconverted received signals via blocks 51, 52, 53, 30, 27, 28, 29, 21 22, 23, 24, 11, 12, 41, 42;
- Wherein the converter also is responsive to the first long term automatic frequency control (44) via blocks 52, 53, 30, 27, 28, 29;

Wakamatsu differs from the instant claimed invention that it does not show that a converter that is configured to downconvert the jointly received first and second signals.

However, Bustamante et al. discloses (figure 1) that the converter (14) that is configured to up/down convert the signals from handsets 11-1, 11-2... 11-N via antenna 13.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Watkamatsu and Bustamante et al. to provide a converter that is configured to downconvert the jointly received first and second signals for improving the communication system.

Regarding claim 31, the limitations are analyzed in the same manner set forth as claim 3.

Regarding claim 35, the limitations are analyzed in the same manner set forth as claim 1.

Regarding claim 36, the limitations are analyzed in the same manner set forth as claim 3.

Regarding claim 43, the limitations are analyzed in the same manner set forth as claim 1.

Regarding claim 44, the limitations are analyzed in the same manner set forth as claim 3.

***Allowable Subject Matter***

4. **Claims 5 – 14, 18 – 27, 29, 32 – 34, and 37 - 42 are objected to** as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Contact Information***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung X. Nguyen whose telephone number is (703) 305-4892. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Ghayour Mohammad H. can be reached on (703) 306-3034. The fax phone numbers for this group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800.

DXN

February 02, 2004

